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Degrees:

BA in Mathematics, summa cum laude, Revelle College, University of California at San Diego, 1977.
PhD in Computer Science, Stanford University, 1982.

Advisor: Joseph Oliger.

Positions:

Courant Institute of Mathematical Sciences, New York University.
NSF Fellow and Visiting Member, 1982–83.
Postdoctoral advisor: Charles Peskin.

University of California at Los Angeles.
Hedrick Assistant Professor of Mathematics, 1983–85.

University of Washington, Department of Applied Mathematics
(joint with Department of Mathematics, 1985–2001).

Assistant Professor, 1985–1987.
Associate Professor, 1987–1990.
Professor, 1990–2018.
Adjunct Professor of Mathematics, 2001–2018
Adjunct Professor of Earth & Space Sciences, since 2014.
Professor Emeritus, since 2018.

ETH Zürich, Mathematics Department.
Professor, 1990–91.

Visiting Positions:

Institute for Computer Applications in Science and Engineering (ICASE), NASA Langley.
Visiting Scientist, summers, 1983, 1984, 1986.

ETH Zürich, Forschungsinstitut für Mathematik,
Visiting Lecturer, April-July, 1989.

Courant Institute, New York University,
Visiting Member, January-March, 1990.

National Center for Atmospheric Research (NCAR), Boulder, Colorado,
Sabbatical visit, 1994–95.

Newton Institute of Mathematical Sciences, Cambridge
Long-term visitor, 2003 and 2012.

Institute for Mathematics and its Applications (IMA), University of Minnesota,
Long-term visitor, 2010.

Simula Research Laboratory, Oslo,
Long-term visitor, Spring 2012.

Brown University, Division of Applied Mathematics,
IBM Visiting Professor, Autumn Semester, 2012.

Tohoku University, Sendai, Japan

Visiting Professor, Jan.–March, 2021, Aug. 2021 – Feb. 2022, and Sept. 2023 – Feb. 2024.

Awards and Honors:

National Science Foundation Graduate Fellowship, 1977-80.

Hertz Foundation Graduate Fellowship, 1980-82.

National Science Foundation Postdoctoral Fellowship, 1982-83.

Presidential Young Investigator Award, 1987.

NASA Space Act Award (for work with H. Yee), 1995.

Boeing Professor of Applied Mathematics, 2001-02.

Founders Term Professor of Applied Mathematics, 2009-12.

Fellow of the Society of Industrial and Applied Mathematics (SIAM), 2010–.

Fellow of the American Mathematical Society (AMS), 2013–.

Senior Data Science Fellow, UW eScience Institute, 2014–2020.

CoMotion Presidential Innovation Fellow, UW, 2015.

Boeing Professor of Applied Mathematics, UW, 2015–2018.

Member, National Academy of Sciences, 2021–.

Member, Washington State Academy of Sciences, 2021–.

Lifetime Achievement Award, Community Surface Dynamics Modeling System, 2024.

Selected Invited Lectures

Coxeter Lecturer, Fields Institute, Toronto, 2002

Plenary Lecture, 9th International Conference on Hyperbolic Problems, Caltech, 2002.

Invited Lecture, International Congress of Mathematicians, Madrid, 2006.

Keynote Speaker, DOE Computational Sciences Graduate Fellow Conference, June, 2008.

Invited Lecture, SIAM Annual Meeting, 2008.

School of Earth Sciences Distinguished Lecture, Stanford University, 2014.

Keynote Speaker, EuroSciPy Conference, Cambridge University, 2015.

Richard C. DiPrima Lecture, Rensselaer Polytechnic Institute, 2016.

IMA Public Lecture, University of Minnesota, 2016.

Grosswald Lecturer, Temple University, 2016.

Clifford Lecturer, Tulane University, 2017.

Short Courses Taught

Von Karman Institute for Fluid Dynamics, Rhode Saint Geneève, Belgium. Series of four lectures in the Lecture Series on Computational Fluid Dynamics, March 5–9, 1990.

German Mathematical Society (DMV) short course on Theory and Numerics of Hyperbolic Conservation Laws, with C. Dafermos, Irsee, Germany, August 29 – Sept. 5, 1993.

Saas-Fee Advanced Course on “Computational Methods for Astrophysical Fluid Flow”, with D. Mihalas and E. Müller, Swiss Society of Astrophysics and Astronomy, Le Diablerets, Switzerland, March 3–8, 1997.

Short course on numerical methods for conservation laws, Newton Institute, Cambridge, April 28 – May 2, 2003.

Short course on hyperbolic equations and finite volume methods, Nanjing Normal University, June 27–29, 2007.

Short course on hyperbolic equations and finite volume methods, Schlumberger Research, Houston, January 15–18, 2008.

Co-organizer (with J. Bell and J. Meza) Mathematical Research Communities Conference of Scientific Computing, 2008.

Short course on the Clawpack software, Institute for Mathematics and its Applications (IMA), University of Minnesota, October 4–6, 2010.

Short course on finite volume methods and the Clawpack software, with D. Calhoun, UW RTG IPDE Summer School 2011, June 20 – July 8, 2011.

Short course on Clawpack, WAVES 2011, Vancouver, 2011.
Gene Golub SIAM Summer School on “Simulation and Supercomputing in the Geosciences”,
Co-organizer and lecturer, Monterey, July 29 - August 10, 2012.
Clinic on GeoClaw software, CSDMS Annual meeting, May, 2016 and May, 2024.
Clinic on Finite Volume Methods, CSDMS Annual meeting, May, 2023

Meeting Organization

Co-organizer, 1st, 7th, 11th, 15th, 19th, and 24th Annual Pacific Northwest Numerical Analysis Seminars, 1987, 1993, 1997, 2003, 2007, 2013.
Co-organizer (with C. Dafermos and D. Kröner), Oberwolfach Conferences on Hyperbolic Systems of Conservation Laws, Oberwolfach, Germany, 1992, 1996, 2000, 2004, 2008.
Co-organizer of numerous minisymposia at SIAM conferences.
Co-organizer (with A. Greenbaum and others), SIAM Regional Workshop on Mathematics in Industry, at the University of Washington, 2000.
Co-organizer (with T. Toro, M. Paulhus, C. Bose), PIMS Industrial Problem Solving Workshop, University of Washington, 2001.
Scientific Committee, 9th International Conference on Hyperbolic Problems, Caltech, 2002.
Co-organizer (with B. Keyfitz), invited minisymposium on Hyperbolic Conservation Laws, SIAM Annual Meeting, 2002.
Co-organizer (with J. Ballman, P. G. LeFloch, and E. F. Toro), Conference on Shock Waves in Solid Materials and Multiphase Flows, Newton Institute, Cambridge, 2003.
Co-organizer (with R. Russell and S. Ruuth), Banff International Research Station (BIRS) Workshop on Computational Techniques for Moving Interfaces, 2003.
Scientific Committee, Chicago Workshop on Adaptive Mesh Refinement, 2003.
Co-organizer (with M. Choptuik, D. Arnold, L. Lehner, E. Tadmor) Banff International Research Station (BIRS) Workshop on Numerical Relativity, 2005.
Scientific Committee, Eleventh Int’l Conference on Hyperbolic Problems, Lyon, France, 2006
Co-organizer (with D. Iverson, USGS) Workshop of Landslide and Debris Flow Modeling, Seattle, 2009.
Co-organizer (with M. Kot) Celebration of Applied Mathematics Department, UW, 2009.
Scientific Committee, Thirteenth Int’l Conference on Hyperbolic Problems, Beijing, China, 2010.
Co-organizer (with E. Tadmor, F. Giraldo, K. Ide), Modeling and Computations of Shallow-water Coastal Flows, University of Maryland, October, 2010.
Steering Committee, 2011 ICIAM meeting, Vancouver.
Satellite and Embedded Meetings Committee, 2011 ICIAM meeting, Vancouver.
Co-organizer (with N. Nigam and others) WAVES 2011, Vancouver.
Co-organizer (with I. Mitchell and V. Stodden) Workshop on Reproducible research: tools and strategies for scientific computing, Vancouver, 2011.
Co-organizer, Community Forum on Reproducible Research Policies, preceeding ICIAM 2011, Vancouver.
Co-organizer (with D. Ketcheson, A. Ahmadi, K. Mandli) [HPC]³ Workshop, KAUST, 2012.
Co-organizer (with D. Bailey, J. Borwein, W. Rider, W. Stein, V. Stodden), ICERM Workshop on Reproducibility in Computational and Experimental Mathematics Brown University, 2012.
Organizing committee, SIAM Computational Science and Engineering Conference, 2013.
Co-organizer, Clawpack Developers’ Workshop, UW, 2013.
Scientific Committee, PDESoft Conference, Heidelberg, 2014.
Co-organizer, eScience Reproducibility Workshop, 2014.
Organizing committee, ICERM Workshop on “Mathematics in Data Science”, July, 2015.
Co-organizer, Clawpack Developers’ Workshop, UW, 2016.
Co-organizer, GeoHack Week Workshops, UW, 2016, 2017.
Co-organizer, GeoClaw Developers’ Workshop, University of Colorado, 2018.
Local organizing committee, Foundations of Computational Mathematics Conference, Vancouver BC, 2020. (Delayed due to COVID.)

Co-organizer, Project Definition Workshop on M9 Disaster Science, UW, 2019.
Co-organizer, GeoClaw Developers' Workshop, Online, 2020.
Co-organizer, Foundations of Computational Mathematics topical workshop on Foundations of Numerical PDEs, Whistler, 2022.

Other Recent Professional Service

Member of SIAM Board of Trustees, 2014–16, 2017–19, 2020–22
Member of SIAM Council, 2002–04, 2005–07.
Chair, SIAM Journals Committee, 2010–12, 2013–15.
Chair, SIAM *ad hoc* Committee on Supplementary Materials, 2010–12.
Member of SIAM Systems Oversight (2016–19) and Compensation Committee (2018–21).
Editorial Board, SIAM News, 2016–2018.
Survey and Review Section Editor, *SIAM Review*, 2003–2005. Associate Editor, 2005–09.
Associate Editor, *Comm. Appl. Math. and Comput. Sci.* (CAMCOS), 2007–18.
Editor, SIAM book series *Fundamentals of Algorithms*, 2011–13.
Member, Scientific Advisory Board, Banff International Research Station (BIRS), 2013–15, 2016–18.
Panelist, National Science Board Expert Panel on Data Policies, 2011.
Panelist, Nuclear Regulatory Commission Workshop on Probabilistic Flood Hazard Assessment, 2013.
Panelist, National Research Council workshop on Statistical Challenges in Assessing and Fostering the Reproducibility of Scientific Results, 2015.

Recent Significant University Service

Interdepartmental degree program in Applied and Computational Mathematical Sciences (ACMS),
Founding Director, 1996–2001. Steering Committee member, 2015–17.
Co-PI on interdepartmental VIGRE grant from NSF, 1999–2004.
Faculty Senate representative, 2003–2005, 2005–2007.
Faculty Council on Student Affairs, 2008–11.
Faculty Council on University Libraries, 2012–15, 2015–18.
eScience Executive Committee, 2014–18.
M9 Project Steering Committee, 2014–19.

PhD Students

Twenty seven PhD students graduated. See <http://faculty.washington.edu/rjl/people.html> for a list and links to most theses.

Software

Clawpack — Conservation Laws Package, open source software available from
<http://www.clawpack.org>
GeoClaw — Software for depth-averaged geophysical flows, open source software available from
<http://www.geoclaw.org>

Books

- [B1] Numerical Methods for Conservation Laws, “ETH Lectures in Mathematics” Series, Birkhäuser Verlag, Basel, 1990 (214 pp.).
- [B2] Computational Methods in Astrophysical Fluid Flow, by R. J. LeVeque, D. Mihalas, E. Dorfi and E. Müller, Twenty-seventh Saas-Fee Course, (A. Gautschy and O. Steiner, editors) Springer-Verlag, 1998.
- [B3] Finite Volume Methods for Hyperbolic Problems, Cambridge University Press, 2002 (557 pp.).
- [B4] Finite Difference Methods for Ordinary and Partial Differential Equations, SIAM, Philadelphia, 2007 (350 pp.).
- [B5] Riemann Problems and Jupyter Solutions, Theory and Approximate Solvers for Hyperbolic PDEs, by D. I. Ketcheson, R. J. LeVeque, and M. J. del Razo, SIAM, Philadelphia, 2020,

Journal Publications

Recent papers and code can be found at <http://faculty.washington.edu/rjl/pubs>
Google Scholar Profile: <http://scholar.google.com/citations?user=N66WuYOAAAAJ>

- [J1] Numerically stable methods for updating regressions, with W.B. Gragg and J.A. Trangenstein. J. Amer. Stat. Assoc. 74(1979), pp. 161-168.
- [J2] On least squares exponential sum approximation with positive coefficients, with J.W. Evans and W.B. Gragg, Math. Comp. 34(1980), pp. 203-211.
- [J3] A test problem for kidney models, with R. Mejia and J.L. Stephenson, Math. Biosci. 50(1980), pp. 129-131.
- [J4] Large time-step shock capturing techniques for scalar conservation laws, SIAM J. Numer. Anal. 19(1982), pp.1091-1109.
- [J5] Numerical methods based on additive splittings for partial differential equations, with J. Olinger, Math. Comp. 40(1983), pp. 469-497.
- [J6] Algorithms for computing the sample variance: analysis and recommendations, with T.F. Chan and G.H. Golub, Amer. Stat. 37(1983), pp.242-247.
- [J7] On the uniform boundedness of a family of matrices and applications to one-leg and linear multistep methods, with G. Dahlquist and Huang Mingyou, Numer. Math. 42(1983), pp. 1-13.
- [J8] Convergence of a large time step generalization of Godunov’s method for conservation laws, Comm. Pure Appl. Math. 37(1984), pp. 463-477.
- [J9] Convergence of Godunov’s method for a class of 2x2 systems of conservation laws, with B. Temple, Trans. A.M.S. 288(1985), pp.115-123.
- [J10] On the resolvent condition in the Kreiss Matrix Theorem, with L.N. Trefethen, BIT 24(1984), pp. 584-591.
- [J11] Solution of a two-dimensional cochlea model using transform techniques, with C.S. Peskin and P.D. Lax, SIAM J. Appl. Math. 45(1985), pp. 450-464.
- [J12] A large time step generalization of Godunov’s method for systems of conservation laws, SIAM J. Numer. Anal. 22(1985), pp. 1051-1073.
- [J13] On the accuracy of stable schemes for 2D scalar conservation laws, with J.B. Goodman, Math. Comp. 45(1989), pp. 15-21.
- [J14] A geometric approach to high resolution TVD schemes, with J.B. Goodman, SIAM J. Numer. Anal. 25(1988), pp. 268-284.

- [J15] Intermediate boundary conditions for time-split methods applied to hyperbolic partial differential equations, *Math. Comp.* 47(1986), pp. 37-54.
- [J16] On the interaction of nearly equal solitons in the KdV equation, *SIAM J. Appl. Math.* 47(1987), pp. 254-262.
- [J17] On the interaction of solitary waves in a modified Boussinesq equation, with P. Clarkson and R. Saxton, *Studies Appl. Math.* 75(1986), pp. 95-122.
- [J18] Second order accuracy of Brenier's time-discrete method for nonlinear systems of conservation laws, *SIAM J. Numer. Anal.* 25(1988), pp. 1-7.
- [J19] Solution of a viscous two-dimensional cochlea model, with C.S. Peskin and P.D. Lax, *SIAM J. Appl. Math.* 48(1988), pp. 191-213.
- [J20] Analysis of the SOR iteration for the 9-point Laplacian, with L.M. Adams and D.M. Young, *SIAM J. Numer. Anal.* 25(1988), 1156-1180.
- [J21] High resolution finite volume methods on arbitrary grids via wave propagation, *J. Comput. Phys.* 78(1988), pp. 36-63.
- [J22] Fourier Analysis of the SOR iteration, with L.N. Trefethen, *IMA J. Num. Anal.* 8(1988), pp. 273-279.
- [J23] A study of numerical methods for hyperbolic conservation laws with stiff source terms, with H.C. Yee, *J. Comput. Phys.* 86(1990), 187-210.
- [J24] Stable boundary conditions for Cartesian grid calculations, with M.J. Berger, *Comput. Syst. Engin.* 1(1990), 305-311.
- [J25] Analysis of a one-dimensional model for the immersed boundary method, with R.P. Beyer, *SIAM J. Numer. Anal.* 29(1992), pp. 332-364.
- [J26] The immersed interface method for elliptic equations with discontinuous coefficients and singular sources, with Z. Li, *SIAM J. Numer. Anal.* 31(1994), 1019-1044.
- [J27] One-dimensional front tracking based on high resolution wave propagation methods, with Keh-Ming Shyue, *SIAM J. Sci. Comput.* 16(1995), 348-377.
- [J28] High-resolution conservative algorithms for advection in incompressible flow, *SIAM J. Numer. Anal.* 33(1996), 627-665.
- [J29] Two-dimensional front tracking based on high resolution wave propagation methods, with Keh-Ming Shyue, *J. Comput. Phys.* 123(1996), 35-368.
- [J30] An immersed interface method for Stokes flow, with Z. Li, *SIAM J. Sci. Comput.* 18(1997) 709-735.
- [J31] Immersed interface methods for wave equations with discontinuous coefficients, with C. Zhang, *Wave Motion* 25(1997) 237-263.
- [J32] Wave propagation algorithms for multi-dimensional hyperbolic systems, *J. Comput. Phys.* 131(1997), 327-353.
- [J33] Adaptive mesh refinement using wave-propagation algorithms for hyperbolic systems, with M. J. Berger, *SIAM J. Numer. Anal.* 35(1998) 2298-2316.
- [J34] Balancing source terms and flux gradients in high-resolution Godunov methods: The quasi-steady wave-propagation algorithm, *J. Comput. Phys.* 146(1998), 346-365.
- [J35] Crack jump conditions for elliptic problems, with A. Wiegmann and Z. Li, *Appl. Math. Letters* 12 (1999) pp. 81-88.
- [J36] High-resolution finite volume methods for acoustics in periodic or random media, with T. Fogarty, *J. Acoust. Soc. Am.* 106 (1999), pp. 17-28.

- [J37] Solving the advection-diffusion equation in irregular geometries, with D. Calhoun. *J. Comput. Phys.* 156 (2000), pp. 1–38.
- [J38] Fractional Step Methods Applied to a Chemotaxis Model, with Rebecca Tyson and L. G. Stern, *J. Math. Biol.* 41 (2000), 455-475
- [J39] A wave propagation method for three dimensional conservation laws, with J.O. Langseth. *J. Comput. Phys.* 165 (2000) pp. 126-166.
- [J40] A modified fractional step method for the accurate approximation of detonation waves, with C. Helzel and G. Warnecke. *SIAM J. Sci. Comput.* 22 (2000), 1489-1510.
- [J41] Moving mesh methods for one-dimensional conservation laws using CLAWPACK, with R. Fazio, *Comp. Math. Appl.* 45 (2003), 273-298.
- [J42] Time evolution of cosmic-ray modified plane shocks, with H. Kang, T. W. Jones and K. M. Shyue. *Astrophysical Journal* 550 (2001), 737-751.
- [J43] A class of approximate Riemann solvers and their relation to relaxation schemes, with M. Pelanti, *J. Comput. Phys.* 172 (2001), 573-591.
- [J44] Finite volume methods for nonlinear elasticity in heterogeneous media, *Int. J. Numer. Methods in Fluids.* 40 (2002), 93-104.
- [J45] A wave-propagation method for conservation laws with spatially varying flux functions, with D. S. Bale, S. Mitran, and J. A. Rossmannith, *SIAM J. Sci. Comput.* 24 (2002), 955-978.
- [J46] Solitary Waves in Layered Nonlinear Media, with D. H. Yong, *SIAM J. Appl. Math.* 63 (2003), 1539-1560.
- [J47] H-box methods for the approximation of one-dimensional conservation laws on irregular grids, with M. J. Berger and C. Helzel, *SIAM J. Numer. Anal.* 41 (2003), 893-918.
- [J48] An immersed interface method for incompressible Navier-Stokes equations, with L. Lee, *SIAM J. Sci. Comput.* 25 (2003), 832-856.
- [J49] The dynamics of pressureless dust, *J. Hyperbolic Differential Equations* 1(2004), 315-327.
- [J50] A high-resolution rotated grid method for conservation laws with embedded geometries, with C. Helzel and M. J. Berger, *SIAM J. Sci. Comput.* 26 (2005), 785-809.
- [J51] A wave propagation algorithm for hyperbolic systems on curved manifolds, with J. A. Rossmannith and D. S. Bale, *J. Comput. Phys.* 99 (2004), 631-662.
- [J52] High-Resolution Finite Volume Methods for Dusty Gas Jets and Plumes, with M. Pelanti, *SIAM J. Sci. Comput.*, 28 (2006) 1335-1360.
- [J53] Finite volume methods and adaptive refinement for global tsunami propagation and local inundation, with D. L. George, *Science of Tsunami Hazards* 24(2006), pp. 319-328.
- [J54] Logically Rectangular Grids and Finite Volume Methods for PDEs in Circular and Spherical Domains, with D. A. Calhoun and C. Helzel, *SIAM Review* 50 (2008), pp. 723-752.
- [J55] Correction to the article “A comparison of the extended finite element method with the immersed interface method for elliptic equations with discontinuous coefficients and singular sources by Vaughan et al.”, with J. T. Beale, D. L. Chopp, and Zhilin Li, *Comm. Appl. Math. Comput. Sci.* 3 (2008), pp. 95-100.
- [J56] Python Tools for Reproducible Research on Hyperbolic Problems, *Computing in Science and Engineering (CiSE)* 11 (2009), pp. 19-27 (Special issue on reproducible research.)
- [J57] Logically Rectangular Finite Volume Methods with Adaptive Refinement on the Sphere, with M. J. Berger, D. A. Calhoun and C. Helzel, *Phil. Trans. Roy. Soc. A* 367 (2009), 4483-4496.
- [J58] Numerical Approximation of Stiff Reacting Flow, with C. Helzel, invited submission to a volume on Stiff Reactions and Relaxation (G. Puppo and G. Russo, eds.), to appear.

- [J59] Reproducible Research: Addressing the Need for Data and Code Sharing in Computational Science. By Yale Law School Roundtable on Data and Code Sharing, *Computing in Science and Engineering (CiSE)* 12(2010), pp. 8-13
- [J60] A Well-Balanced Path-Integral f-wave Method for Hyperbolic Problems with Source Terms. *J. Sci. Comput.*, doi 10.1007/s10915-010-9411-0, 2010
- [J61] Universality in the run-up of shock waves to the surface of a star, with C. Gundlach. *J. Fluid Mech.* 676 (2011), pp. 237 - 264.
- [J62] The GeoClaw software for depth-averaged flows with adaptive refinement, with M. J. Berger and D. L. George and K. T. Mandli, *Advances in Water Resources* 34 (2011), pp. 1195-1206, doi: 10.1016/j.advwatres.2011.02.016. (Invited paper)
- [J63] Tsunami modeling with adaptively refined finite volume methods, with D.L. George and M.J. Berger, *Acta Numerica* 20(2011) pp. 211 - 289. doi 10.1017/S0962492911000043. (Invited paper)
- [J64] Shock Dynamics in Layered Periodic Media, with D. I. Ketcheson, *Comm. Math. Sci.* 10 (2012), pp. 859-874.
- [J65] Reproducible Research for Scientific Computing: Tools and Strategies for Changing the Culture, with I. Mitchell and V. Stodden, *Computing in Sci. and Eng.* 14 (2012), 13-17.
- [J66] High-Order Wave Propagation Algorithms for General Hyperbolic Systems with D.I. Ketcheson and M. Parsani. *SIAM J. Sci. Comput.* 35 (2013), A351-A377.
- [J67] High-resolution finite volume modeling of wave propagation in orthotropic poroelastic media, with G. I. Lemoine and M. Y. Ou. *SIAM J. Sci. Comput.* 35(2013), B176-B206.
- [J68] Comparison of earthquake source models for the 2011 Tohoku-oki event using tsunami simulations and near field observations, with B. T. MacInnes, A. R. Gusman, and Y. Tanioka, *Bull. Seis. Soc. Amer.* 103(2013), pp. 1256-1274.
- [J69] Computational Models of Material Interfaces for the Study of Extracorporeal Shock Wave Therapy, with K. Fagnan. *Comm. Appl. Math. and Comput. Sci.* 8(2013), 159-194.
- [J70] Validating velocities in the GeoClaw tsunami model using observations near Hawaii from the 2011 Tohoku tsunami, with M.E.M. Arcos. *Pure Appl. Geophys.* 172 (2015), pp. 849-867. <https://doi.org/10.1007/s00024-014-0980-y>
- [J71] The pattern method for incorporating tidal uncertainty into probabilistic tsunami hazard assessment (PTHA), with L. M. Adams, and F. I. González, *Natural Hazards* 76(2015), pp. 19-39.
- [J72] M. J. Del Razo, Y. Morofuji, J. S. Meabon, B. R. Huber, E. R. Peskind, W. A. Banks, P. D. Mourad, R. J. Leveque and D. G. Cook, Computational and in vitro studies of blast-induced blood-brain barrier disruption, *SIAM J. Sci. Comput.* 39 (2017), pp. B486-B507, 10.1137/15M1010750.
- [J73] M. J. Del Razo, R. J. LeVeque, Computational study of shock waves propagating through air-plastic-water interfaces, *Bull. Braz. Math. Soc., New Series*, 47(2016), 685-700, 10.1007/s00574-016-0178-2
- [J74] The Clawpack 5.X Software, with K. T. Mandli, A. J. Ahmadi, M. J. Berger, D. A. Calhoun, D. George, Y. Hadjimichael, D. I. Ketcheson, G. I. Lemoine, to appear in *PeerJ Computer Science*, 2016.
- [J75] Adjoint Methods for Guiding Adaptive Mesh Refinement in Tsunami Modeling, with Brisa N. Davis, *Pure & Applied Geophysics* 173 (2016), pp. 4055-4074. doi:10.1007/s00024-016-1412-y.
- [J76] Generating Random Earthquake Events for Probabilistic Tsunami Hazard Assessment, with K. Waagan, F. I. González, D. Rim, and G. Lin, *Pure & Applied Geophysics* 173 (2016) pp. 3671-3692. doi:10.1007/s00024-016-1357-1.

- [J77] Kinematic Rupture Scenarios and Synthetic Displacement Data: An Example Application to the Cascadia Subduction Zone, with D. Melgar, D. S. Dreger, and R. M. Allen, *J. Geophys. Res. – Solid Earth* 121(2016), pp. 6658-6674. doi:10.1002/2016JB013314.
- [J78] Numerical methods for interface coupling of compressible and almost incompressible media, with M. del Razo, *SIAM J. Sci. Comput.* 39 (2016), pp. B486–B507, <https://doi.org/10.1137/16M1067834>
- [J79] A Boussinesq type extension of the GeoClaw model - a study of wave breaking phenomena applying dispersive long wave models, with J. Kim, G. K. Pedersen, and F. Løvholt, *Coastal Engineering* 122 (2017), pp. 75-86. doi:10.1016/j.coastaleng.2017.01.005.
- [J80] A High-Resolution Finite Volume Seismic Model to Generate Seafloor Deformation for Tsunami Modeling, with C.J. Vogl, *J. Sci. Comput.* 2017, 1204–1215, <https://doi.org/10.1007/s10915-017-0459-y>.
- [J81] Probabilistic Tsunami Hazard Analysis: Multiple Sources and Global Applications, with A. Grezio, A. Babeyko, M. A. Baptista, J. Behrens, et al. *Reviews of Geophysics* 55 (2017), pp. 1158-1198. <https://doi.org/10.1002/2017RG000579>.
- [J82] Transport reversal for model reduction of hyperbolic partial differential equations, with D. Rim and S. Moe, *SIAM/ASA Journal on Uncertainty Quantification* 6(2018), pp. 118-150.
- [J83] A comparison of a two-dimensional depth-averaged flow model and a three-dimensional RANS model for predicting tsunami inundation and fluid forces with X. S. Qin, M. R. Motley, F. Gonzalez, and K. Mueller, *Nat. Hazards Earth Syst. Sci.*, 18 (2018) , pp. 2489-2506. doi:10.5194/nhess-18-2489-2018
- [J84] The Geomorphic Impact of Outburst Floods: Integrating Observations and Numerical Simulations of the 2000 Yigong Flood, Eastern Himalaya, with M.D. Turzewski and K.W. Huntington, *J. Geophys. Res. Earth Surface*, 2019, doi:10.1029/2018JF004778.
- [J85] Shoaling on Steep Continental Slopes: Relating Transmission and Reflection Coefficients to Green’s Law, with J. George and D. I. Ketcheson, *Pure Appl. Geophys.* 2019, doi:10.1007/s00024-019-02316-y.
- [J86] A path integral method for solution of the wave equation with continuously-varying coefficients, with J. D. George and D. I. Ketcheson, *SIAM J. Appl. Math.* 79 (2019), pp. 2615-2638.
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